ABSTRACT
NITRATE CONTAMINATION OF GROUND WATER IN THE GREATER WEISER, IDAHO AREA

The Greater Weiser Area in southwest Idaho has been placed on the IDEQ nitrate priority list and is ranked the highest in the state in terms of degradation of ground water. In the fall of 2001 a committee of concerned citizens and technical advisors was formed under the guidance of IDEQ. The Weiser Area Ground Water Quality Advisory Committee (the Committee) wrote a Management Plan to reduce nitrate levels through education. The Plan is a designed to give direction and guidance for the community and its leaders.

The Committee identified six land-use activities that can potentially affect nitrate levels for ground water in Washington County. They are: 1) Agriculture 2) Industrial/municipal Wastewater Land Application 3) Residential 4) Animal Feeding Operations 5) Ground Water Recharge and 6) Ground Water/ Surface Water Interaction.

The combination of these land use activities and the unique geology and hydrology of the lower Snake River Plain has led to the Weiser Area being ranked the number one priority area in Idaho for nitrate contamination. Sixty-five domestic wells have been sampled routinely; of those, 72% indicate nitrate levels above 5mg/l, and 45% of the wells have been impacted beyond the nitrate Maximum Contaminant Level of 10mg/l. The shallow alluvial aquifer typically from 20 to 100 feet below surface is the most common water-bearing zone and the source of drinking water for domestic wells. The aquifer is overlain typically by porous soils, sands and gravels along the Snake River and is underlain by hundreds of feet of impervious clays that does not contain ground water of any consequence. Nitrates originating from the land-use activities can easily reach the shallow aquifer.

The Committee has outlined four methods for implementing its voluntary action plan:

1. Develop awareness in the Weiser Area community about the nature of the nitrate in ground water issues, including causes, effects, concerns, and remedies.
2. Identify, organize, and provide information and potential funding sources for Best Management Practices (BMPs) that will assist individuals, public entities, businesses, and organizations to reduce nitrate loading.
3. Encourage research, investigation, and the development of materials useful for addressing nitrate concentration concerns where information may not be available or in useable form.
4. Develop educational material that will allow the community to independently assess and choose the BMPs most useful to them for reducing the nitrate loading to ground water.

The Committee has begun its implementation tasks, and will act as the overall coordinator to encourage adoption of practices that will reduce nitrate loading to the ground water. Implementation has begun with educating the community and supporting studies by entities like Weiser River Soil Conservation District and their Filter Strip Project and the Natural Resources Conservation Service and their Best Management Practices Demonstration Project on the Weiser Flat. These projects have monitoring plans built-in to assess the success in reducing nitrate contamination. The Weiser Area Ground Water Quality Management Plan has served as the foundation document for obtaining funding to address non-point source pollution.